Technical Document 1537
May 1989

Technical Women and Supervision at NOSC

A Survey of Attitudes Toward Supervision

The Women's Advisory Committee and the
NOSC Federal Women's Program Manager

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NAVAL OCEAN SYSTEMS CENTER
San Diego, California 92152-5000

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Commander

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Technical Director

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This document presents the results of a survey of attitudes toward supervision by NOSC technical managers, and NOSC male and female technical nonsupervisors who are potential technical supervisors.

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INDEX

FOREWORD

The Women's Advisory Committee (WAC) is an ad hoc council formed by the Federal Women's Program Manager (FWPM) in 1980 to address the concerns of women working at NOSC and to develop recommendations based on issues identified to the FWPM, to WAC members, or to the EEO Office. Past projects include:

1980 - Day Care Center needs survey

1981 - Compressed hours schedule effect on the Center's
       working parents

1982 - Outline of concerns of NOSC women

1984 - Career ladder for NOSC secretaries

1985 - Maternity Leave policy (which led to current NOSC policy)

1987 - A Study of Technical Women and Supervision*

* This study is the result of the 1987-88 WAC project.

Advice and recommendations from the WAC are provided via the Federal Women's Program Manager (FWPM) to the following:

Deputy EEO Officer: Dr. T. O. Bartley

Technical Director: R. M. Hillyer

EEO Officer: Captain E. G. Schweizer, Jr.

The Naval Ocean Systems Center maintains an aggressive EEO effort aimed at developing all employees to their fullest potentials and utilizing their skills and capabilities in accomplishing the mission of the Center. The Commander's EEO policy is included as Appendix A.

EXECUTIVE SUMMARY

BACKGROUND

Mr. Robert Hillyer, NOSC Technical Director, tasked the Women's Advisory Committee (WAC) in June 1987 with answering his question, "Why aren't there more women in technical management?"

OBJECTIVES

1. To determine if NOSC women are underrepresented as supervisors in the technical area.

2. To determine if technical women want to be supervisors.

3. To identify what is required to become a NOSC technical supervisor.

4. To determine what actions on the part of NOSC management will develop or nurture interest in women to assume supervisory roles at NOSC.

METHODS

1. A survey was designed to investigate attitudes toward supervision. Three groups were surveyed:

    a. Female technical nonsupervisors.

    b. A representative group of male technical nonsupervisors who closely matched the women's group in demo level, series, years at NOSC and degree level.

    c. Technical supervisors.

2. A comprehensive personnel data base of NOSC employees was used to corroborate the survey results and to determine if women are underrepresented as technical supervisors.

CONCLUSIONS

1. Women are underrepresented as technical supervisors. Analysis of the women's survey and the NOSC personnel database verify that there are women qualified to supervise at NOSC. Statistically there should be seven female supervisors instead of the two we had when this survey was taken.

2. Forty-one percent of the women respondents want to be supervisors.

3. There is a disparity in perceptions between management and employees about what is keeping employees from becoming supervisors.

4. The fundamental causes of underrepresentation of technical women in supervision, as perceived by the women surveyed who have been at NOSC for at least 10 years, are

   a. A historically male-dominated network,

   b. Lack of career development information.

   c. Lack of experience.

RECOMMENDATIONS

1. Identify the qualified women and encourage them to apply for supervisory positions.

2. Tell employees about the results of the study.

3. Monitor representation annually.

4. Tell employees what it takes to become a supervisor at NOSC.

5. Emphasize career development.

6. Establish a mentorship program.

SECTION I: INTRODUCTION

The WAC compiled the following statistics while in the process of identifying their 1987-88 task:

1569 people were scientists and engineers; of these,
162 were technical supervisors, of whom
98.8% (160) were male, and
1.2% (2) were female.

During the 1986 annual meeting of the Technical Board, the NOSC Technical Director asked "Why are there no women on this Board?" Essentially the same question was raised again at the 1987 Technical Review Board meeting and at the 1987 Career Development meeting. This prompted discussion on whether or not there were technical women in the pipeline who would ultimately become Department or Staff Office Heads.

Subsequently, the WAC submitted a proposal to the Deputy EEO Officer to investigate the causes of the lack of technical women supervisors. The EEO Office endorsed the task and the Technical Director approved a survey designed to study the issue of representation of women in technical supervision at NOSC.

This report presents the results of the survey and provides recommendations aimed at developing all employees to their full potential.

SECTION II: OBJECTIVES AND METHODOLOGY

OBJECTIVES

In June 1987, the Women's Advisory Committee (WAC) was directed to

1. Determine if NOSC women are underrepresented as supervisors in the technical area;

2. Determine if technical women want to be supervisors;

3. Identify what is required to become a technical supervisor, and;

4. Determine what actions on the part of NOSC management will develop or nurture interest in women to assume supervisory roles at NOSC.

METHODOLOGY

1. The WAC prepared and distributed three surveys and solicited information from the following groups:

   a. Female technical nonsupervisors. Of the 121 surveys sent out, 79 were returned. See Appendix B for survey sample.

   b. Male technical nonsupervisors. This was a representative group that closely matched the women's group in demo level, series, years at NOSC and degree level. Of the 75 surveys sent out, 38 were returned. The men answered the same survey that the women answered.

   c. Technical supervisors. Supervisors in Department through Branch Head positions at NOSC participated. Of the 160 surveys sent out, 84 were returned. See Appendix C for survey sample.

   Note: For the purpose of this survey, the WAC defined "technical personnel" as those civilian employees in any science or engineering series at NOSC. See Appendix D for list.

   The surveys were designed to determine any disparities in perceptions about supervision between technical nonsupervisory women and technical supervisors.

2. A comprehensive personnel database of NOSC employees was used to corroborate the survey results and to determine if women are underrepresented as technical supervisors.

SECTION III: RESULTS

This section uses a question and answer format to present the results of the survey. The complete list of survey questions and ranked results are available in Appendix E.

The first four questions are those raised by several Department Heads before the survey was distributed and pinpoint some key issues. The questions are

1. Do the technical women want to be supervisors?

2. Are technical women getting support and guidance to become supervisors?

3. Do the technical women know what it takes to become a supervisor?

4. Do the technical women have the qualifications to be supervisors?

The key question, "Why aren't technical women becoming supervisors?" was taken from ˍhe survey. The responses convey important information that address misconceptions about women and supervision.

This section concludes with miscellaneous relevant observations.

1. DO THE TECHNICAL WOMEN WANT TO BE SUPERVISORS?

When asked if being a supervisor is a major goal, 41% of the women and 26% of the men surveyed said yes. When the nonsupervisory women and men were asked about aspiring to specific supervisory levels, the following percentages of people answered affirmatively:

PERCENT OF SURVEY RESPONDENTS WHO WANT TO BE SUPERVISORS		
SUPERVISORY GOAL	**WOMEN**	**MEN**
Program Manager	52%	39%
Branch Head	43%	42%
Division Head	23%	32%
Department Head	18%	18%

Many women scientists and engineers desire to attain supervisory roles.

6

2. ARE TECHNICAL WOMEN GETTING SUPPORT AND GUIDANCE TO BECOME SUPERVISORS?

"Yes," is the most frequent answer from both women (59%) and men (58%). However, the comments volunteered from those women who have been at NOSC the longest reveal that they are the ones least satisfied with the support they are getting.

3. DO THE TECHNICAL WOMEN KNOW WHAT IT TAKES TO BECOME A SUPERVISOR?

Respondents were asked to rank-order a postulated list of qualities that could be necessary for supervision. A partial list of those qualities is shown in the table below. The table shows the percent of respondents in each survey who felt that a particular quality was very important. The qualities are listed in order of importance to the managers.

ATTRIBUTES THAT WERE RANKED AS VERY IMPORTANT FOR BEING SELECTED AS A SUPERVISOR/PROGRAM MANAGER			
	MANAGERS	WOMEN	MEN
Achieve technical excellence	88%	62%	47%
Have supervisor's support	88%	97%	92%
Develop visibility with Sponsors	86%	86%	78%
Be willing to travel	84%	64%	55%
Ability to bring funds to Center	83%	77%	81%
Have natural management ability	79%	61%	45%
Have Department Head's support	78%	94%	84%
Develop visibility within NOSC	74%	87%	79%
Have a Career Development Plan	35%	53%	38%
Have a Mentor	33%	64%	37%
Have an advanced degree	28%	43%	39%

A summary of some of the most significant disparities between what
the managers ranked highly important and what the women and men
ranked highly important is illustrated in the graph below:

Do the Technical Women Know What it Takes to be a Supervisor?

Supervisors (84)   Women (79)   Men (38)
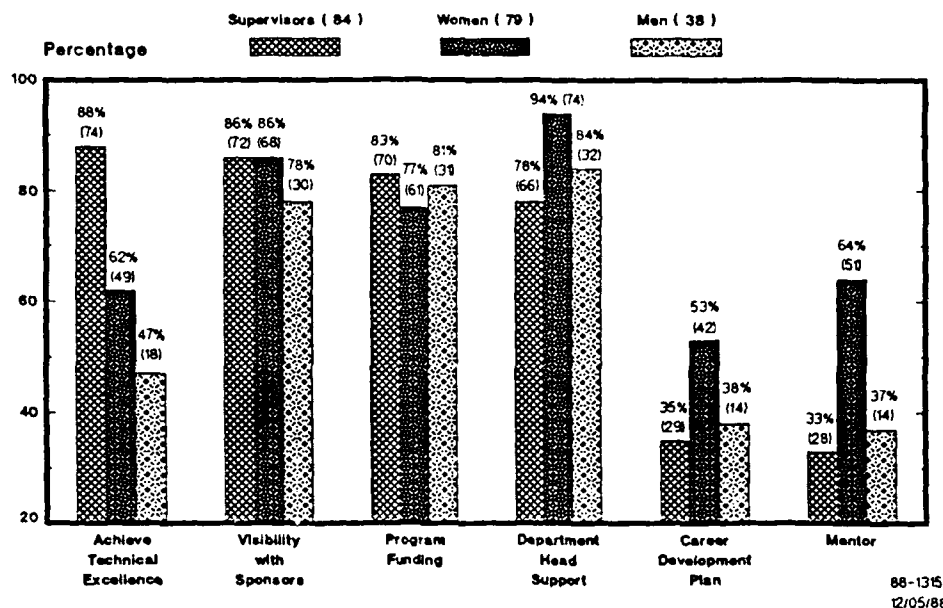
Since the managers ranked "Achieving technical excellence" most
important, both men and women need to give this attribute more
importance in their careers.

The women ranked "Have a Mentor" and "Have a Career Development
Plan" as "very important" more often than the men. The greater
emphasis on guidance and mentoring by the women may be a symptom of
an unofficial career development system within NOSC that works more
effectively for men. Women may feel it necessary to formally
identify goals and mentors because the "system" doesn't
automatically include and encourage them.

4. DO THE TECHNICAL WOMEN HAVE THE QUALIFICATIONS TO BE SUPERVISORS?

To answer this question, we first had to find out what the
supervisory qualifications are. The WAC supervisors' survey shows
that the common supervisor attributes are the four listed below:

- At least 15 years of service at NOSC
- A degree in electrical engineering
- An advanced degree
- Experience as a Program Manager

Next, we had to find out how many women have these same supervisor
attributes. We used the NOSC personnel database to compare the
occurrence of these attributes in the supervisor and technical

women populations. We used the NOSC personnel database because the data from the WAC survey is limited to respondents from three specific employee groups. Appendix F contains the data used for this comparison. The NOSC personnel database and the WAC survey results are consistent with respect to these attributes as shown below:

	SUPERVISORS		TECHNICAL WOMEN	
ATTRIBUTE	**WAC SRVY**	**NOSC DATA**	**WAC SRVY**	**NOSC DATA**
Program Manager	88%	N/A	41%	N/A
> 15 Years	85%	86%	15%	19%
Advanced Degree	68%	62%	33%	43%
Elec. Engineer	58%	54%	18%	20%

OCCURRENCE OF SPECIFIC ATTRIBUTES FOR SUPERVISORS AND ALL TECHNICAL WOMEN

It was not enough to know the occurrence of these attributes. We also needed to find out the distribution within each population. The comparable female supervisor distribution (column e, in the following table) is the expected distribution of technical women supervisors based on time at NOSC, degree level, series data, and the comparable men's distribution in column b. Column f is the actual distribution of women technical supervisors. This analysis indicates, statistically, that as of July 1987, seven technical women should have been NOSC technical supervisors, but only two women were.

Technical Supervisor Distribution and Comparability Analysis
(as of 22 Jul 87)

			A	B	C	D	E	F
ACCOMPLISHMENTS			# non-supervisor (men) a	# supervisor (men) b	% supervisor men $c = \frac{b}{a+b}(100)$	# women d	comparable female supv. distribution $e = c \times d$	Actual female supervisor distribution f
YEARS AT NOSC	DEGREE LEVEL	SERIES						
0 - 15	LESS THAN MASTERS	855	167	2	1.2	9	.1	
0 - 15	LESS THAN MASTERS	OTHER THAN 855	174	3	1.7	47	.8	1
0 - 15	MASTERS OR GREATER	855	90	8	8.2	10	.8	
0 - 15	MASTERS OR GREATER	OTHER THAN 855	167	10	5.6	31	1.7	
> 16	LESS THAN MASTERS	855	202	35	14.8	2	.3	1
> 16	LESS THAN MASTERS	OTHER THAN 855	131	22	14.4	12	1.7	
> 16	MASTERS OR GREATER	855	154	40	20.6	3	.6	
> 16	MASTERS OR GREATER	OTHER THAN 855	147	38	20.5	6	1.2	
	TOTAL		1232	158		120	7.2	2

The WAC survey was queried to find evidence of individual women qualified for technical supervision. Twelve nonsupervisory technical women who returned a survey have been here more than 15 years. Of these 12, half have two or three of the remaining three most common supervisory attributes: program manager experience, electrical engineer series, and an advanced degree. Four of these women currently want to become supervisors.

5. WHY AREN'T TECHNICAL WOMEN BECOMING SUPERVISORS?

We asked managers what they thought was keeping employees from becoming supervisors. The survey listed 16 possible reasons and, in priority order, managers strongly agreed with the following:

WHAT MANAGERS BELIEVE IS KEEPING EMPLOYEES FROM ASPIRING TO SUPERVISORY POSITIONS	
1. Do not want to supervise.	(88%)
2. Have conflicting goals.	(66%)
3. Feel there is too much travel.	(54%)
4. Feel the hours are too long.	(54%)
5. They are too new in workforce.	(53%)

In turn, we asked nonsupervisory women and men what they thought kept them from becoming supervisors. Out of a list of 16 possible reasons, they strongly agreed, in ranked order, that the following reasons applied:

WHAT EMPLOYEES BELIEVE IS KEEPING THEM FROM ASPIRING TO SUPERVISORY POSITIONS	
WOMEN	**MEN**
1. Too new in workforce. (61%)	1. Too new in workforce. (39%)
2. Conflicting goals. (39%)	2. Conflicting goals. (39%)
3. Do not have to be a supervisor to achieve financial rewards. (32%)	3. Do not have to be a supervisor to achieve financial rewards. (34%)
4. Do not have enough visibility. (32%)	4. Do not have enough visibility. (31%)
5. Do not want to supervise. (28%)	5. Haven't considered supervision. (29%)

The women and men surveyed gave essentially the same reasons for not becoming supervisors.

The managers' perceptions are different from the employees' perceptions about what is keeping employees from aspiring to supervision. Late hours, travel requirements, and dislike of supervision are not the reasons employees gave. This comparison shows that managers are not aware of the real reason employees don't pursue supervision. The following bar graph shows the disparity between what managers think and what employees think:

Why Aren't Technical Women Becoming Supervisors?
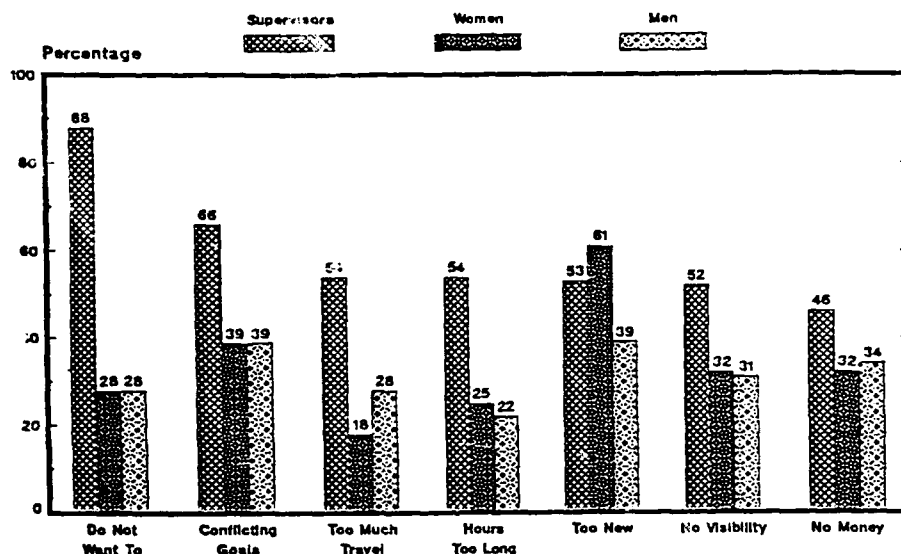
Most revealing are the comments from the survey. The junior women feel that generally women are too new in the workforce to be supervisors. The senior nonsupervisory women, those who have been at NOSC for at least 10 years, believe that the three most important reasons women do not become supervisors are that they do not receive career development information, they are not included in the male-dominated network, and they lack experience.

11

OTHER ISSUES

Program Management:	More female than male respondents said they had been Program Managers but no longer are. This was usually due to reorganizations.
Supervisory Goals:	Five women with NOSC supervisory experience want to be supervisors. Ten women have had supervisory experience outside NOSC.
Individual Development Plan:	The survey asked if employees use this form (NOSC-SD Form 14000/1). The most common comment was "Don't know what this is."
Women and Travel:	While more than half of the supervisors surveyed felt travel requirements are keeping women from being a supervisor, only 18% of the women are not willing to travel and 28% of men surveyed are not willing to travel.
Women and Breaks in Service:	The perception before the survey was that women have excessive breaks in service. Eighty percent of women have not had breaks in service, and only 8% have taken breaks that lasted longer than six months. Ninety percent of supervisors have not had breaks in service, and 4% have had breaks for longer than six months.
Women and Family Commitments:	Twenty-two percent of the women surveyed felt that family ties were a problem, while 15% of men reported the same problem.
Men Working for a Woman:	Although this question was not included in the survey, six supervisors and numerous women felt it was important enough to comment that some men have a problem working for women.

SECTION IV: CONCLUSIONS

The results of the WAC surveys and analysis of the NOSC personnel database clearly show that there are NOSC technical women who want to be supervisors and that technical women are underrepresented in the supervisory workforce. There were two technical women supervisors in July 1987, and statistically there should have been seven.

The junior technical women do not recognize this underrepresentation and they believe that they have and will have the support and guidance needed to become supervisors. However, the senior technical women (those who have been here the longest) have been frustrated and are not satisfied. They believe that the causes of this underrepresentation are due to the following reasons:

1. The existence of a historically male-dominated network that does not automatically include women,

2. Lack of career development information, and

3. Lack of experience.

In an effort to better understand technical supervision at NOSC, management and employee perceptions about supervision were solicited. Although perceptions are mostly in agreement, there is a disparity between management and employee perceptions about what keeps employees from becoming supervisors. For example, neither men nor women perceive their own technical excellence, willingness to travel, and management ability as being as important for selection to supervision as the managers do. Additionally, the women feel more strongly than the men or managers about the importance of support and guidance (specifically, having a mentor and a career development plan). The women and the managers both commented that NOSC lacks needed guidelines for becoming a supervisor.

There is underrepresentation of women technical supervisors at NOSC. We have determined reasons for it and suggest ways for stimulating change. Many of the women now at NOSC should be considered as an important source of new supervisors.

SECTION V: RECOMMENDATIONS

The following recommendations are submitted:

1. **Identify the qualified women and encourage them to apply.**

   There are women scientists and engineers at NOSC who are qualified to be supervisors and there is an under-representation of women in technical supervisory roles. These qualified women should be found and encouraged to apply for supervisory positions that become available. This will in turn ensure that NOSC is using its personnel resources.

2. **Tell employees about the results of the study.**

   Brief the Department Heads on the content of this report. Publish an article in the Outlook to inform not only the respondents who specifically requested feedback, but all personnel about the results of the study. Such action will demonstrate management's concern for maximizing employee career opportunities, and may help dispel some misconceptions about women and supervision.

3. **Monitor representation annually.**

   The Technical Supervisor Distribution and Comparability Analysis table on page 9 of this report compares the distribution of supervisory positions among the men and women scientists and engineers in proportion to the number of eligible employees. This analysis should be repeated on a yearly basis and the results given to the Technical Director. Such a review will ensure that management is kept aware of technical women's representation in the supervisory workforce.

4. **Tell employees what it takes to become a supervisor at NOSC.**

   Define the criteria and career steps necessary for advancement into supervisory positions at NOSC. The survey revealed specific qualities that NOSC supervisors generally look for in supervisor candidates. Incorporate these findings into a structured career path to supervision and then inform employees about what steps need to be taken.

5. **Emphasize career development.**

   The WAC strongly recommends that career development information and training be provided to Center employees. The Individual Development Plan (NOSC-SD Form 14000/1) should be expanded to include career development and goal setting in more than just the area of formal training. A career development process allows each employee the

opportunity to develop, jointly with his or her supervisor, a long-range (2- to 5-year) career development plan. Target skills or positions will be mutually identified and dates for reaching the target goals set. Furthermore, a mentor can be identified and documented on the form.

a. Design a unique Individual Development Plan form to meet the specific career development needs of the Center's scientific and technical employees that includes the career growth areas identified from the survey.

b. Require supervisors to use the expanded Individual Development Plan form when goals and objectives are being established each year, and monitor the career development of each employee throughout the year during each regularly scheduled review period.

c. Augment the efforts of the existing Career Development meeting by requiring the review of the career plans of all DP-III scientists and engineers one organizational level higher than immediate supervisor in order to ensure that career development is being maximized.

6. **Establish a mentorship program.**

Create a mentorship program as a component of individual career development. Such a program fosters teamwork and shared values. It provides a way to spot the people with a knack for grooming talent; at the same time, leaders can get a glimpse of the talent being groomed. Mentoring provides top management with information necessary for human resource planning. Senior researchers can groom employees to perpetuate their unique skills, and the workforce can be developed to move into future mission areas.

SECTION VI: APPENDICES

AFFIRMATIVE EMPLOYMENT PROGRAM FOR MINORITIES AND WOMEN
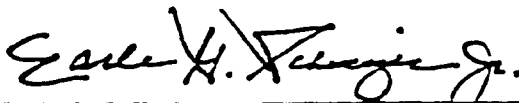
EEO POLICY STATEMENT

As the EEO Officer, I declare that Naval Ocean Systems Center is fully committed to equal employment opportunity and the implementation of a strong affirmative employment program without regard to sex, religion, race, color, national origin, age or handicap (mental or physical).

Naval Ocean Systems Center will strive to provide an equal opportunity in employment for all persons in its work force or being recruited for its personnel policies, program practices and operations and in all its working conditions and relationships with employees and applicants for employment. I strongly promote the full realization of equal opportunity in employment through continuing programs of affirmative employment at every management level within the Department. The Department subscribes to and implements to the fullest, the requirements of Title VII of the Civil Rights Act of 1964, as amended; Executive Order 11478, as amended; Age Discrimination in Employment Act of 1967; the Equal Pay Act of 1962, as amended, and the Vocational Rehabilitation Act of 1973, as amended.

The success of the EEO Program depends on the support of the supervisors and managers. Therefore, this support will be taken into consideration when evaluating supervisors' and managers' performance and promotions.

It is the responsibility of every manager, supervisor, and employee to carry out the objectives of the EEO Program. With this in mind, I look forward to achieving a qualified civilian work force that is reflective of our nation's diverse population.

27 MAY 1988

EARLE G. SCHWEIZER, JR., CAPTAIN, USN   DATE
COMMANDER, NAVAL OCEAN SYSTEMS CENTER

APPENDIX B

SURVEY FOR NON-SUPERVISORY TECHNICAL SCIENTISTS AND ENGINEERS

Ser 002/219
2 June 1987

MEMORANDUM
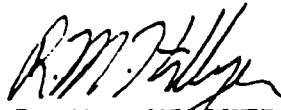
From: Technical Director, Code 01
To: NOSC's Non-supervisory Women Scientists and Engineers

Subj: WOMEN'S ADVISORY COMMITTEE (WAC) OPINION SURVEY

Encl: (1) WAC Survey

1. NOSC currently has a total of 1569 scientists and engineers on
board. Of the 1448 male scientists and engineers, one out of 9 is a
supervisor. The 121 women scientists and engineers are 8% of the total
technical workforce, but only one woman out of more than 60 is a
supervisor. Women are underrepresented as technical supervisors in the
NOSC workforce.

2. The WAC has selected as its 1987 project the task of (1)
investigating and determining why NOSC women are underrepresented as
supervisors in the technical area, (2) recommending action that will
develop or nurture interest among women in assuming supervisory roles
at NOSC, and (3) determining what actions on the part of the NOSC
management would provide support for women as supervisors. The data
needed to resolve these issues do not exist.

3. A survey has been designed for this purpose, and to potentially
serve as a template to poll the total population at NOSC, including
minorities and handicapped. It is anticipated that the actions
recommended as the result of this survey will be applicable to the
supervisory development of all employees.

4. I support the WAC in their efforts to conduct a survey, included
as enclosure (1). Your support for this survey is requested and
encouraged. Your response is strictly on an anonymous and voluntary
basis. Upon completion, please forward the survey to the Federal
Women's Program Manager in the EEO Office, Code 002, no later than
26 June 1987.

R. M. HELLYER

WOMEN'S ADVISORY COMMITTEE OPINION SURVEY

PLEASE NOTE: This is strictly an opinion survey and does not intend to
imply any greater promotional opportunity beyond that
prescribed by Center policy. Not everyone will be or will
want to be a supervisor/manager. This is intended simply
to survey your perceptions about supervisory opportunity and
desirablity at NOSC.

Attached: Definition of Terms
Education Discipline Coding Sheet

Please provide the following information:

1.   First 2 digits of your organization code: ___ ___

2.   Education:

High school	Yes_____	No_____
Some college	Yes_____	No_____
Some postgraduate work	Yes_____	No_____

Level of Education	Type of Degree	Major Discipline (See coding sheet)
Bachelor's degree	_____	_____
Master's degree	_____	_____
PhD	_____	_____

3.   Demo grade level: DP - ___   (e.g., DP - 2)

3a. How many years have you been in your current grade level:_____

4.   Job Classification Series Number: _____ (e.g. 855)

5.   Year you entered the NOSC workforce: 19__ __

6.   How long do you intend to work at NOSC? (Check one.)

6a. 0-5+ years   _____
6b. 6-10+ years   _____
6c. 11-15+ years   _____
6d. 16-19+ years   _____
6e. 20 or more   _____

7.   How many breaks in service* have you had? _____

8.   If you have had any breaks in service, summarize below the length of
each break in service? (Include all that apply.)

Number of times	Length of break
8a._____	(1 month to 6 months)
8b._____	(7 months to 1+ year)
8c._____	(2 to 4+ years)
8d._____	(5 to 7+ years)
8e._____	(8 to 10+ years)
8f._____	(11 to 14+ years)
8g._____	(15 years or more)

*See Definition of Terms

9.   Do you aspire to be a NOSC Branch Head?   Yes_____
                                                                  No _____

     9a. If yes, do you think you will achieve this goal? Yes_____
                                                                  No _____

10. Do you aspire to be a NOSC Division Head?   Yes_____
                                                                  No _____

     10a. If yes, do you think you will achieve this goal? Yes_____
                                                                  No _____

11. Do you aspire to be a NOSC Department Head?   Yes_____
                                                                  No _____

     11a. If yes, do you think you will achieve this goal? Yes_____
                                                                  No _____

12. Are you a program manager*?   Yes_____
                                                                  No _____

     12a. If yes, of a minor* or major* program?   Minor_____
                                                                  Major_____

13. If you are not a progam manager, do
     you aspire to be one?   Yes_____
                                                                  No _____

     13a. If yes, do you think you will achieve this goal? Yes_____
                                                                  No _____

14. Have you submitted a request to attend technical
     or management training at NOSC?   Yes_____
                                                                  No _____

15. Have you attended the NOSC Program
     Managers Training Course?   Yes_____
                                                                  No _____

16. While at NOSC, have you taken any education or
     self-development courses on your own?   Yes_____
                                                                  No _____

17. While employed at NOSC, have you attended
     any management/supervisory training
     courses outside NOSC?   Yes_____
                                                                  No _____

     17a. If yes, was the training financially
     supported by NOSC?   Yes_____
                                                                  No _____

*See Definition of Terms

18. Have you been a supervisor at NOSC
and are no longer a supervisor?   Yes_____
                                                   No _____

19. If yes, please indicate the reason:

    19a. The position was eliminated.   Yes_____
                                                    No _____

    19b. I didn't like being a supervisor.   Yes_____
                                                    No _____

    19c. I decided to take another position.   Yes_____
                                                    No _____

    19d. Other (please explain):_____

    _____

    _____

20. Have you ever been a supervisor in a
technical work setting at another place of
employment?   Yes_____
                                                    No _____

21. Have you been a Program Manager in the past
and are no longer a Program Manager?   Yes_____
                                                    No _____

22. If yes, please indicate the reason why:

    22a. The position was eliminated.   Yes_____
                                                    No _____

    22b. I didn't like being a program manager.   Yes_____
                                                    No _____

    22c. I decided to take another position.   Yes_____
                                                    No _____

    22d. Other (please explain): _____

    _____

    _____

23. Have you wanted to be a Supervisor/Program Manager
in the past but have since changed your mind?   Yes_____
                                                    No _____

    23a. If yes, please state the reason: _____

    _____

    _____

What do you think you must do in order to be selected as a Supervisor/ Program Manager? For each of the following items, please rank the importance, from 1 = Not Important to 5 = Very Important, by drawing a circle around the appropriate number:

		Not Important				Very Important
24.	Achieve technical excellence	1	2	3	4	5
25.	Be willing to travel	1	2	3	4	5
26.	Develop visibility* within NOSC	1	2	3	4	5
27.	Develop visibility with sponsors	1	2	3	4	5
28.	Have ability to bring program funding to the Center	1	2	3	4	5
29.	Be selected for Off-Center special assignments (e.g., six months in Wa DC, NSAP tour)	1	2	3	4	5
30.	Have a mentor*	1	2	3	4	5
31.	Have a career development plan	1	2	3	4	5
32.	Have support of spouse/family	1	2	3	4	5
33.	Have supervisor's support	1	2	3	4	5
34.	Have Department Head's support	1	2	3	4	5
35.	Move to different work group(s) in order to broaden experience	1	2	3	4	5
36.	Work on important projects	1	2	3	4	5
37.	Have an advanced degree (Master's or above)	1	2	3	4	5
38.	Supervisory/Management training	1	2	3	4	5
39.	Have natural management ability	1	2	3	4	5
40	Other: _____	1	2	3	4	5
41.	_____	1	2	3	4	5
42.	_____	1	2	3	4	5

*See Definition of Terms

What do you think may be the factors keeping you from becoming a Supervisor or Program Manager? For each of the following possible reasons, please rank each item from 1 = Strongly Disagree to 5 = Strongly Agree, by drawing a circle around the appropriate number:

	Strongly Disagree		Undecided		Strongly Agree
43. I have other conflicting goals	1	2	3	4	5
44. I don't have to be a supervisor to achieve financial rewards	1	2	3	4	5
45. Commuting problems	1	2	3	4	5
46. Family commitments	1	2	3	4	5
47. Postponing career goals for child-rearing	1	2	3	4	5
48. Attitude of co-workers or supervisor do not support my goals	1	2	3	4	5
49. Requires too much traveling	1	2	3	4	5
50. Requires working too many or late hours	1	2	3	4	5
51. I do not want to supervise	1	2	3	4	5
52. Lack of support from family	1	2	3	4	5
53. Lack of support from supervisor	1	2	3	4	5
54. I have not been given the opportunity to work on important assignments	1	2	3	4	5
55. I don't get enough visibility	1	2	3	4	5
56. I feel that NOSC does not promote from within	1	2	3	4	5
57. I am too new in the workforce	1	2	3	4	5
58. I have not considered becoming a supervisor or program manager	1	2	3	4	5
59. Other: _____	1	2	3	4	5
60. _____	1	2	3	4	5
61. _____	1	2	3	4	5

62. Is being a supervisor at NOSC a major
career goal for you?   Yes_____

                                                        No _____

63. Do you talk about your career goals with
your supervisor?   Yes_____

                                                        No _____

64. Do you have a current Individual
Development Plan, NOSC-SD 14000/1?   Yes_____

                                                        No _____

65. Does your supervisor help you attain
your career goals?   Yes_____

                                                        No _____

66. Do you have a mentor?   Yes_____

                                                        No _____

66a.If yes, is your mentor male or female?   Male_____

                                              Female_____

67. Do you feel that underrepresentation of women
in technical supervisory positions at NOSC is
a problem?   Yes_____

                                                        No _____

67a.   If yes, what do you feel are the primary causes?_____

_____

_____

_____

67b.   What specific recommendations would you suggest to correct them?

_____

_____

_____

_____

If you have additional comments regarding any of your answers or would like
to offer any other observations on the general subject area of this survey,
please provide these in the space below.

_____

_____

_____

_____

_____

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_____

Forward completed survey to NOSC's Federal Women's Program Manager,
Code 002, no later than 26 June 1987. Thank you for your participation.

If you want a copy of the survey results, please contact Madelaine Silva,
Federal Women's Program Manager in the EEO Office, Code 002, ext. 2274.

DEFINITION OF TERMS

Technical: All NOSC employees in a technical series in the DP
                      career path.

Supervisor: Line managers: Branch Heads, Division Heads, Department
                      Heads.

Program Manager: The principal investigator of a project.

Minor Project: Any program with a level of effort of less than $100K in
                      this FY.

Major Project: Any multi-year program with a level of effort of $100K
                      or greater per year.

Visibility: An employee's name becomes synonymous with a program
                      effort or as a primary point of contact for a program.

Mentor: A supportive senior employee who counsels, advises,
                      encourages and acts as a role model.

Break in Service: Being in a non-work status, due to extended annual
                      leave or sick leave, LWOP, or not employed.

TABLE 237

CODE	CLEAR TEXT	*CODE	CLEAR TEXT
0502	ACCOUNTING#	0402	BOTANY, GENERAL#
1797	ACTUARIAL SCIENCE#	0501	BUSINESS & COMMERCE, GENERAL#
0803	ADMINISTRATION OF SPECIAL EDUCATION#	0517	BUSINESS ECONOMICS//
0007	ADULT & CONTINUING EDUCATION//	0505	BUSINESS MANAGEMENT & ADMINISTRATION#
0604	ADVERTISING#	0503	BUSINESS STATISTICS#
1003	AEROSPACE SCIENCE (AIR FORCE)#	0838	BUSINESS, COMMERCE, & DISTRIBUTIVE EDUCATION#
0902	AEROSPACE, AERONAUTICAL & ASTRONAUTICAL ENGRG#	0417	CELL BIOLOGY(CYTOLOGY, CELL PHYSIOLOGY)#
1116	AFRICAN LANGUAGES (NON-SEMITIC)#	0916	CERAMIC ENGINEERING//
0305	AFRICAN STUDIES#	0906	CHEMICAL ENGINEERING(INCL.PETROLEUM REFINING)#
2211	AFRO-AMERICAN (BLACK CULTURE) STUDIES#	1905	CHEMISTRY, GENERAL (EXCLUDE BIOCHEMISTRY)#
0903	AGRICULTURAL ENGINEERING#	1107	CHINESE#
0110	AGRICULTURE & FARM MANAGEMENT#	1221	CHIROPRACTIC#
0116	AGRICULTURE & FORESTRY TECHNOLOGIES#	1010	CINEMATOGRAPHY//
0112	AGRICULTURE BUSINESS#	0206	CITY,COMMUNITY,& REGIONAL PLANNING#
0111	AGRICULTURE ECONOMICS#	0908	CIVIL, CONSTRUCTION & TRANSPORTATION ENGRG#
0101	AGRICULTURE GENERAL#	1504	CLASSICS#
0102	AGRONOMY(FIELD CROPS) & CROP MANAGEMENT#	2003	CLINICAL PSYCHOLOGY#
2212	AMERICAN INDIAN CULTURAL STUDIES#	1222	CLINICAL SOCIAL WORK#
0313	AMERICAN STUDIES#	1303	CLOTHING & TEXTILES#
1909	ANALYTICAL CHEMISTRY#	0605	COMMUNICATION MEDIA(ORIENTED TO RADIO/TV)#
0412	ANATOMY#	0601	COMMUNICATIONS, GENERAL#
0103	ANIMAL SCIENCE(HUSBANDRY)#	2101	COMMUNITY SERVICES, GENERAL#
2202	ANTHROPOLOGY#	1503	COMPARATIVE LITERATURE#
2298	APPLIED BEHAVIORIAL SCIENCE#	0701	COMPUTER & INFORMATION SCIENCES, GENERAL#
1009	APPLIED DESIGN(CERAMICS,WEVNG,TEX,FASH,JEWLY)#	0704	COMPUTER PROGRAMMING#
1703	APPLIED MATHEMATICS#	1304	CONSUMER ECONOMICS & HOME MANAGEMENT#
1112	ARABIC//	1507	CREATIVE WRITING#
2203	ARCHAEOLOGY#	2209	CRIMINOLOGY//
0904	ARCHITECHRAL ENGINEERING#	0029	CURRICULUM & INSTRUCTION#
0202	ARCHITECTURE//	0105	DAIRY SCIENCE(HUSBANDRY)#
0031	ART EDUCATION (METHODOLOGY & THEORY)#	1008	DANCE#
1003	ART HISTORY & APPRECIATION#	0703	DATA PROCESSING#
1002	ART(PAINTING, DRAWING, SCULPTURE)//	2215	DEMOGRAPHY//
0301	ASIAN STUDIES, GENERAL//	1204	DENTISTRY, D.D.S. OR D.M.D. DEGREE#
1911	ASTRONOMY//	1213	DENTAL HYGIENE (BACCLTE & HIGHER PROGRAMS)#
1912	ASTROPHYSICS#	1205	DENTAL SPECIALTIES (BEYOND D.D.S. OR D.M.D.)#
1913	ATMOSPHERIC SCIENCES AND METEOROLOGY#	1224	DENTAL TECHNOLOGIES#
0403	BACTERIOLOGY//	2009	DEVELOPMENTAL PSYCHOLOGY#
0504	BANKING & FINANCE#	1007	DRAMATIC ARTS#
2303	BIBLICAL LANGUAGES//	0836	DRIVER & SAFETY EDUCATION#
0414	BIOCHEMISTRY//	1917	EARTH SCIENCES, GENERAL#
0905	BIOENGINEERING & BIOMEDICAL ENGINEERING#	0302	EAST ASIAN STUDIES#
4902	BIOLOGICAL AND PHYSICAL SCIENCES//	0311	EASTERN EUROPEAN STUDIES#
0401	BIOLOGY, GENERAL#	0420	ECOLOGY#
1217	BIOMEDICAL COMMUNICATION#	2204	ECONOMICS#
0419	BIOMETRICS & BIOSTATISTICS#	0813	EDUCATION OF THE CULTURALLY DISADVANTAGED#
0415	BIOPHYSICS#	0812	EDUCATION OF THE DEAF#
		0816	EDUCATION OF THE EMOTIONALLY DISTURBED#
		0811	EDUCATION OF THE GIFTED#
		0810	EDUCATION OF THE MENTALLY RETARDED#

CODE	CLEAR TEXT	CLEAR TEXT	*CODE
0820	EDUCATION OF THE MULTIPLE HANDICAPPED#	HISTORY#	2205
0813	EDUCATION OF THE PHYSICALLY HANDICAPPED#	HOME DECORATION & HOME EQUIPMENT#	1302
0814	EDUCATION OF THE VISUALLY HANDICAPPED#	HOME ECONOMICS, GENERAL#	1301
0301	EDUCATION, GENERAL#	HORTICULTURE(FRUIT & VEGETABLE PRODUCTION)#	0108
0027	EDUCATIONAL ADMINISTRATION#	HOSPITAL & HEALTH CARE ADMINISTRATION#	1202
0822	EDUCATIONAL PSYCHOLOGY(INCL.LEARNING THEORY)#	HOTEL RESTAURANT MANAGEMENT#	0508
0224	EDUCATIONAL STATISTICS & RESEARCH#	HUMANITIES AND SOCIAL SCIENCES#	4903
0828	EDUCATIONAL SUPERVISION#	INDIAN (ASIATIC)#	1113
0825	EDUCATIONAL TESTING, EVAL.& MEASUREMENT#	INDUSTRIAL & MANAGEMENT ENGINEERING#	0913
0909	ELECTRICAL, ELECTRONICS & COMMUNICATIONS ENGR#	INDUSTRIAL ARTS, VOCATIONAL, & TECHNICAL EDUC.#	0839
0202	ELEMENTARY EDUCATION, GENERAL#	INDUSTRIAL ENGINEERING#	0926
0427	EMBRYOLOGY#	INDUSTRIAL PSYCHOLOGY#	2008
4903	ENGINEERING AND OTHER DISCIPLINES#	INFORMATION SCIENCES & SYSTEMS#	0702
0997	ENGINEERING MANAGEMENT#	INORGANIC CHEMISTRY#	1906
0921	ENGINEERING MECHANICS#	INSTITUTIONAL MANAGEMENT & CAFETERIA MGMT#	1307
0919	ENGINEERING PHYSICS#	INSURANCE#	0512
0925	ENGINEERING TECHNOLOGIES#	INTERIOR DESIGN#	0203
0901	ENGINEERING, GENERAL#	INTERNATIONAL BUSINESS#	0513
1501	ENGLISH, GENERAL#	INTERNATIONAL PUBLIC SRV (NOT DIPLOMATIC SRV)#	2106
0121	ENTOMOLOGY#	INTERNATIONAL RELATIONS#	2210
0922	ENVIRONMENTAL & SANITARY ENGINEERING#	INVESTMENTS & SECURITIES#	0505
0201	ENVIRONMENTAL DESIGN, GENERAL#	ISLAMIC STUDIES#	0306
0310	EUROPEAN STUDIES, GENERAL#	ITALIAN#	1104
2002	EXPERIMENTAL PSYCHOLOGY (ANIMAL & HUMAN)#	JAPANESE#	1108
0508	FACILITIES MGMT#	JOURNALISM (PRINTED MEDIA)#	0602
1305	FAMILY RELATIONS & CHILD DEVELOPMENT#	JUNIOR & COMMUNITY COLLEGE EDUCATION#	0806
1001	FINE ARTS, GENERAL#	JUNIOR HIGH SCHOOL EDUCATION#	0804
2196	FIRE SCI TECH AND FIRE SAFETY ADMIN(AA DEG)#	LABOR & INDUSTRIAL RELATIONS#	0516
0107	FISH, GAME, & WILDLIFE MANAGEMENT#	LANDSCAPE ARCHITECTURE#	0204
0113	FOOD SCIENCE & TECHNOLOGY#	LATIN AMERICAN STUDIES#	0308
1306	FOODS & NUTRITION (INCL.DIETETICS)#	LATIN#	1109
1101	FOREIGN LANGUAGES, GENERAL#	LAW ENFORCMNT & CORRECTIONS (BS/BA.& UP PROG)#	2105
0114	FORESTRY#	LAW, GENERAL#	1401
1102	FRENCH#	LIBRARY SCIENCE, GENERAL#	1601
4901	GENERAL LIBERAL ARTS AND SCIENCES#	LINGUISTICS (PHONICS, SEMANTICS, PHILOLOGY)#	1505
0322	GENETICS#	LITERATURE, ENGLISH#	1502
1915	GEOCHEMISTRY#	LOGISTICS ADMINISTRATION#	0569
2206	GEOGRAPHY#	LOGISTICS ENGINEERING#	0590
0911	GEOLOGICAL ENGINEERING#	LOGISTICS MGMT (ACQUISITION)#	0592
1914	GEOLOGY#	LOGISTICS MGMT (INTERNATIONAL)#	0593
0912	GEOPHYSICAL ENGINEERING#	LOGISTICS MGMT (PROCUREMENT)#	0594
1916	GEOPHYSICS AND SEISMOLOGY#	LOGISTICS MGMT#	0591
1103	GERMAN#	LOGISTICS SYSTEMS#	0595
1110	GREEK, CLASSICAL#	MAINTENANCE MANAGEMENT#	0596
0897	GUIDANCE COUNSELING#	MANAGEMENT ENGINEERING#	0927
0837	HEALTH EDUCATION(INCL.FAMILY LIFE EDUCATION)#	MANAGEMENT SCIENCE#	0505
1201	HEALTH PROFESSIONS, GENERAL#	MARINE BIOLOGY#	0418
1111	HEBREW#	MARKETING & PURCHASING#	0509
0305	HIGHER EDUCATION, GENERAL#	MATERIALS ENGINEERING#	0915
0413	HISTOLOGY#	MATHEMATICS EDUCATION(METHODOLOGY & THEORY)#	0833

CODE	CLEAR TEXT
1701	MATHEMATICS, GENERAL#
0510	MECHANICAL ENGINEERING#
1223	MEDICAL LABORATORY TECHNOLOGIES#
1215	MEDICAL RECORD LIBRARIANSHIP//
1207	MEDICAL SPECIALTIES (BEYOND M.D.)#
1206	MEDICINE, M.D. DEGREE#
0914	METALLURGICAL ENGINEERING#
1920	METALLURGY//
2213	MEXICAN-AMERICAN CULTURAL STUDIES#
0411	MICROBIOLOGY#
0309	MIDDLE EASTERN STUDIES#
1801	MILITARY SCIENCE (ARMY)#
0910	MINING & MINERAL ENGINEERING#
0416	MOLECULAR BIOLOGY//
1903	MOLECULAR PHYSICS#
1005	MUSIC (LIBERAL ARTS PROGRAM)#
1004	MUSIC (PERFORMING, COMPOSITION, THEORY)#
0832	MUSIC EDUCATION (METHODOLOGY & THEORY)#
1006	MUSIC HISTORY & APPRECIATION (MUSICOLOGY)#
0115	NATURAL RESOURCES MANAGEMENT#
0923	NAVAL ARCHITECTURE & MARINE ENGINEERING#
1802	NAVAL SCIENCE (NAVY, MARINES)#
0425	NEUROSCIENCES#
0000	NOT APPLICABLE#
0920	NUCLEAR ENGINEERING#
1904	NUCLEAR PHYSICS//
1203	NURSING (BACCLTE & HIGHER PROGRAMS)#
0424	NUTRITION, SCIENTIFIC#
1208	OCCUPATIONAL THERAPY#
0924	OCEAN ENGINEERING#
1919	OCEANOGRAPHY#
0507	OPERATIONS RESEARCH#
1209	OPTOMETRY#
1907	ORGANIC CHEMISTRY#
0109	ORNAMENTAL HORTICULTURE(FLORICULTURE,NURS SC)#
1210	OSTEOPATHIC MEDICINE, D.O. DEGREE#
0199	OTHER AGRICULTURE, RELATED#
0299	OTHER ARCHITECTURE, RELATED#
0399	OTHER ASIAN STUDIES, RELATED#
0499	OTHER BIOLOGY, RELATED#
0599	OTHER BUSINESS & COMMERCE, RELATED#
0699	OTHER COMMUNICATIONS, RELATED//
2199	OTHER COMMUNITY SERVICES, RELATED#
0799	OTHER COMPUTER & INFORMATION SCIENCES,RELATED#
0899	OTHER EDUCATION, RELATED#
0959	OTHER ENGINEERING, RELATED#
1599	OTHER ENGLISH/LITERATURE/PHILOSOPHY STUDIES#
1099	OTHER FINE ARTS, RELATED#
1199	OTHER FOREIGN LANGUAGES, RELATED#
4999	OTHER GENERAL LIBERAL ARTS & SCIENCES,RELATED#

*CODE	CLEAR TEXT
1299	OTHER HEALTH PROFESSIONS, RELATED#
1399	OTHER HOME ECONOMICS, RELATED#
1499	OTHER LAW, RELATED#
1699	OTHER LIBRARY SCIENCE, RELATED#
1799	OTHER MATHEMATICS, RELATED#
1899	OTHER MILITARY, NAVAL, OR AEROSPACE SCS,RELATED#
1999	OTHER PHYSICAL SCIENCES, RELATED#
2099	OTHER PSYCHOLOGIES, RELATED#
2299	OTHER SOCIAL SCIENCES, RELATED#
2399	OTHER THEOLGICAL PROFESSIONS, RELATED#
0314	PACIFIC AREA STUDIES#
1918	PALEONTOLOGY#
2103	PARKS AND RECREATION MANAGEMENT#
0408	PATHOLOGY, HUMAN & ANIMAL#
0515	PERSONNEL MANAGEMENT#
0907	PETROLEUM ENGINEERING(EXCL.PETROLEUM REFIN.)#
1910	PHARMACEUTICAL CHEMISTRY#
0409	PHARMACOLOGY, HUMAN & ANIMAL#
1211	PHARMACY#
1509	PHILOSOPHY//
1011	PHOTOGRAPHY#
1908	PHYSICAL CHEMISTRY#
0835	PHYSICAL EDUCATION#
1901	PHYSICAL SCIENCES, GENERAL#
1212	PHYSICAL THERAPY//
1902	PHYSICS, GENERAL (EXCLUDE BIOPHYSICS)#
0410	PHYSIOLOGY, HUMAN & ANIMAL#
0404	PLANT PATHOLOGY#
0405	PLANT PHARMACOLOGY#
0406	PLANT PHYSIOLOGY#
1216	PODIATRY (POD.D. OR D.P.) OR POD.MED.(D.P.M.)#
2197	POLICE SCI/SECURITY/LAW ENFORCEMENT(AA DEG)#
2207	POLITICAL SCIENCE AND GOVERNMENT#
0106	POULTRY SCIENCE#
0823	PRE-ELEMENTARY EDUCATION(KINDERGARTEN)#
2004	PSYCHOLOGY FOR COUNSELING#
2001	PSYCHOLOGY, GENERAL#
2006	PSYCHOMETRICS#
2010	PSYSIOLOGICAL PSYCHOLOGY#
2102	PUBLIC ADMINISTRATION#
1214	PUBLIC HEALTH#
0603	RADIO/TELEVISION#
0423	RADIOBIOLOGY//
1225	RADIOLOGIC TECHNOLOGIES#
0117	RANGE MANAGEMENT//
0830	READING EDUCATION(METHODOLOGY & THEORY)#
0511	REAL ESTATE#
2198	RECREATION//
0587	RELIABILITY ENGINEERING#
2304	RELIGIOUS EDUCATION#

CODE	CLEAR TEXT
2302	RELIGIOUS MUSIC#
1510	RELIGIOUS STUDIES (NOT THEOLOGICAL PROF)#
0217	REMEDIAL EDUCATION#
0307	RUSSIAN & SLAVIC STUDIES#
1106	RUSSIAN#
1114	SCANDINAVIAN LANGUAGES#
0834	SCIENCE EDUCATION (METHODOLOGY & THEORY)#
0803	SECONDARY EDUCATION GENERAL//
0514	SECRETARIAL STUDIES#
1115	SLAVIC LANGUAGES (OTHER THAN RUSSIAN)#
0821	SOCIAL FOUNDATIONS(HISTORY & PHILOSOPHY)#
2005	SOCIAL PSYCHOLOGY//
2201	SOCIAL SCIENCES, GENERAL#
2104	SOCIAL WORK & HELPING SERVICES (NOT CLINICAL)#
2208	SOCIOLOGY//
0103	SOILS SCIENCE(MANAGEMENT & CONSERVATION)#
1998	SOLID STATE PHYSICS#
0303	SOUTH ASIAN(INDIA,ETC.) STUDIES#
0304	SOUTHEAST ASIAN STUDIES//
1105	SPANISH#
0808	SPECIAL EDUCATION, GENERAL#
0818	SPECIAL LEARNING DISABILITIES#
0815	SPEECH CORRECTION#
1220	SPEECH PATHOLOGY & AUDIOLOGY#
1506	SPEECH,DEBATE, AND FORENSIC SCIENCE#
2007	STATISTICS IN PSYCHOLOGY#
1702	STATISTICS, MATHEMATICAL AND THEORETICAL#
0826	STUDENT PERSONNEL(COUNSELING & GUIDANCE)#
0705	SYSTEMS ANALYSIS//
0998	SYSTEMS ENGINEERING#
0537	SYSTEMS MGMT (LOG SYS)#
0596	SYSTEMS MGMT#
1508	TEACHING ENGLISH AS FOREIGN LANGUAGE#
0917	TEXTILE ENGINEERING#
2301	THEOLOGICAL PROFESSIONS, GENERAL#
0426	TOXICOLOGY#
0510	TRANSPORTATION & PUBLIC UTILITIES#
0598	TRANSPORTATION AND LOGISTICS#
0205	URBAN ARCHITECTURE#
2214	URBAN STUDIES#
1219	VETERINARY MEDICINE (BEYOND D.V.M.)#
1218	VETERINARY MEDICINE (D.V.M. DEGREE)#
0898	VOCATIONAL COUNSELING#
0312	WEST EUROPEAN STUDIES#
0498	WILDLIFE BIOLOGY//
0407	ZOOLOGY, GENERAL//

SURVEY FOR TECHNICAL MANAGERS   12713
                                  Ser 002/398
                                  21 Dec 1987

MEMORANDUM

From: R. M. Hillyer, Technical Director
To: NOSC Technical Supervisors

Subj: OPINION SURVEY

Encl: (1) Subject survey

1. In June 1987, I directed the Women's Advisory Committee to:

     - Investigate and determine why women are underrepresented
as supervisors in the technical areas at Naval Ocean Systems
Center.
     - Recommend action that would develop or nurture interest
among women in assuming supervisory roles at NAVOCEANSYSCEN.
     - Determine what actions on the part of NAVOCEANSYSCEN
management would provide support for women as supervisors.

2.   My decision to investigate the apparent underrepresentation
was substantiated by an analysis of the technical work force
which indicated that:

     - As of June 1987, NAVOCEANSYSCEN had a total of 1569
scientists and engineers.
     - Of the 1448 male scientists and engineers, 1 out of 9 was
a supervisor.
     - The 121 women scientists and engineers were 8% of the
total technical work force, but only one woman out of more than
60 was a supervisor.

3.   The non-supervisory technical women, and a matching
population of males, have been surveyed regarding their
perceptions about supervisory opportunity and desirability at
NAVOCEANSYSCEN.   As a comparison I now need to know what
qualities you consider when selecting supervisors, as well as
information regarding your own career development as a
NAVOCEANSYSCEN supervisor.

4.   I support the WAC in conducting this survey, included as
enclosure (1).   Your support is requested and encouraged, and
your response is strictly anonymous and voluntary. I anticipate
that the actions recommended as a result of this survey will be
applicable to the supervisory development of all employees:
males, females, minorities, non-minorities, and the handicapped.

Subj: OPINION SURVEY

5.   Upon completion, please forward the survey to the Federal
Women's Program Manager in the EEO Office, Code 002-TS, no later
than 22 January 1988.

R. M. HILLYER

WOMEN'S ADVISORY COMMITTEE OPINION SURVEY

PLEASE NOTE: This is strictly an opinion survey and does not intend to
               imply any greater promotional opportunity beyond that
               prescribed by Center policy. Not everyone will be or will
               want to be a supervisor/manager. This is intended simply
               to survey your perceptions about supervisory opportunity and
               desirablity at NOSC.

Attached: Definition of Terms
            Education Discipline Coding Sheet

Please provide the following information:

1.   Education:

         High school   Yes_____   No_____
         Some college   Yes_____   No_____
         Some postgraduate work Yes_____   No_____

         Level of Education   Type of Degree   Major Discipline
                                                   (See coding sheet)
         Bachelor's degree   _____   _____
         Master's degree   _____   _____
         PhD   _____   _____

2.   What was your entry level into Civil Service (e.g. GS-5, GS-11,
     DP-1)? _____

3.   How many years have you been in your current grade level:_____

4.   Job Classification Series Number: _____ (e.g. 855)

5.   Year you entered the NOSC workforce: 19__ __

6.   How many years have you been a supervisor at NOSC? ___ ___

7.   How long do you intend to work at NOSC? (Check one.)

         7a. 0-5+ years   _____
         7b. 6-10+ years   _____
         7c. 11-15+ years   _____
         7d. 16-19+ years   _____
         7e. 20 or more   _____

*See Definition of Terms

8.   How many breaks in service* have you had? _____

9.   If you have had any breaks in service, summarize below the length of
     each break in service? (Include all that apply.)

         Number of times   Length of break

            9a._____   (1 month to 6 months)
            9b._____   (7 months to 1+ year)
            9c._____   (2 to 4+ years)
            9d._____   (5 to 7+ years)
            9e._____   (8 to 10+ years)
            9f._____   (11 to 14+ years)
            9g._____   (15 years or more)

10. Have you ever been a program manager*?   Yes_____
                                                         No _____

         10a. If yes, of a minor* or major* program?   Minor_____
                                                         Major_____

11. Did you attend technical or management
     training at NOSC?   Yes_____
                                                         No _____

12. Have you attended the NOSC Program
     Managers Training Course?   Yes_____
                                                         No _____

13. While at NOSC, have you taken any education or
     self-development courses on your own?   Yes_____
                                                         No _____

14. While employed at NOSC, have you attended
     any management/supervisory training
     courses outside NOSC?   Yes_____
                                                         No _____

         14a. If yes, was the training financially
         supported by NOSC?   Yes_____
                                                         No _____

15. Have you ever been a supervisor in a
     technical work setting at another place of
     employment?   Yes_____
                                                         No _____

*See Definition of Terms

What must an employee do in order for you to consider him/her to be selected as a Supervisor/Program Manager? For each of the following items, please rank the importance, from 1 = Not Important to 5 = Very Important, by drawing a circle around the appropriate number:

	Not Important		Neutral		Very Important
16. Achieve technical excellence	1	2	3	4	5
17. Be willing to travel	1	2	3	4	5
18. Develop visibility* within NOSC	1	2	3	4	5
19. Develop visibility with sponsors	1	2	3	4	5
20. Have ability to bring program funding to the Center	1	2	3	4	5
21. Be selected for Off-Center special assignments (e.g., six months in Wa DC, NSAP tour)	1	2	3	4	5
22. Have a mentor*	1	2	3	4	5
23. Have a career development plan	1	2	3	4	5
24. Have support of spouse/family	1	2	3	4	5
25. Have supervisor's support	1	2	3	4	5
26. Have Department Head's support	1	2	3	4	5
27. Move to different work group(s) in order to broaden experience	1	2	3	4	5
28. Work on important projects	1	2	3	4	5
29. Have an advanced degree (Master's or above)	1	2	3	4	5
30. Supervisory/Management training	1	2	3	4	5
31. Have natural management ability	1	2	3	4	5
32. Other: _____	1	2	3	4	5
33. _____	1	2	3	4	5
34. _____	1	2	3	4	5

*See Definition of Terms

What do you think are the factors keeping _____ employees from becoming a Supervisor or Program Manager? For each of the following possible reasons, please rank each item from 1 = Strongly Disagree to 5 = Strongly Agree, by drawing a circle around the appropriate number:

	Strongly Disagree		Undecided		Strongly Agree
35. They have other conflicting goals	1	2	3	4	5
36. They feel they don't have to be a supervisor to achieve financial rewards	1	2	3	4	5
37. Commuting problems	1	2	3	4	5
38. Family commitments	1	2	3	4	5
39. Postponing career goals for child-rearing	1	2	3	4	5
40. Attitude of co-workers or supervisor do not support their goals	1	2	3	4	5
41. Requires too much traveling	1	2	3	4	5
42. Requires working too many or late hours	1	2	3	4	5
43. They do not want to supervise	1	2	3	4	5
44. Lack of support from family	1	2	3	4	5
45. Lack of support from supervisor	1	2	3	4	5
46. They have not been given the opportunity to work on important assignments	1	2	3	4	5
47. They don't get enough visibility	1	2	3	4	5
48. They feel that NCSC does not promote from within	1	2	3	4	5
49. They are too new in the workforce	1	2	3	4	5
50. They have not considered becoming a supervisor or program manager	1	2	3	4	5
51. Other: _____	1	2	3	4	5

52. If you feel any of the above factors impact the genders differently, please explain: _____

_____

_____

53. Was being a supervisor at NOSC a major
    career goal for you?   Yes_____
                                                No _____

54. Did you talk about your career goals with
    your supervisor?   Yes_____
                                                No _____

55. Did you use the Individual Development Plan,
    NOSC-SD 14000/1, in your career planning?   Yes_____
                                                No _____

56. Did your supervisors help you attain
    your career goals?   Yes_____
                                                No _____

57. Did you have a mentor?   Yes_____
                                                No _____

    57a. If yes, was your mentor male or female? Male_____
                                                  Female_____

58. Do you feel that underrepresentation of women
    in technical supervisory positions at NOSC is
    a problem?   Yes_____
                                                No _____

    58a. If yes, what do you feel are the primary causes?_____

          _____

          _____

          _____

    58b. What specific recommendations would you suggest to correct them?

          _____

          _____

          _____

          _____

If you have additional comments regarding any of your answers or would like to offer any other observations on the general subject area of this survey, please provide these in the space below.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Forward completed survey to NCSC's Federal Women's Program Manager, Code 002, no later than 22 January 1988. Thank you for your participation.

If you want a copy of the survey results, please contact Madelaine Silva, Federal Women's Program Manager in the EEO Office, Code 002, ext. 2274.

Appendix C, Page C-9 through
C-13 duplicate those for
Appendix B. (See Appendix B)

APPENDIX D

List of Technical Series at NOSC (Science and Engineering)

SCIENTISTS AND ENGINEERS SERIES AND JOB TITLE
USING OCT 87 DATABASE ON 13 APRIL 1988

SERIES	TITLE
0180	Psychology
0401	Biology
0408	Ecology
0701	Veterinary Medical
0801	General Engineer
0806	Materials Engineer
0808	Architect
0810	Civil Engineer
0830	Mechanical Engineer
0840	Nuclear Engineer
0850	Electrical Engineer
0855	Electronics Engineer
0858	Biomedical Engineer
0861	Aerospace Engineer
0871	Naval Architecture
0893	Chemical Engineer
0896	Industrial Engineer
1301	General Physical Science
1306	Health Physics
1310	Physics
1320	Chemistry
1321	Metallurgy
1340	Meteorology
1360	Oceanography
1370	Cartography
1515	Operations Research
1520	Mathematics
1550	Computer Science

SURVEY RESULTS

WAC OPINION SURVEY SUMMARY OF RESULTS

Question #1 - First two digits of your organization code:

	00-30	40	50	60	70	80	90	MISSING
Women	5%	15%	16%	14%	18%	13%	15%	4%
Men	3%	24%	13%	13%	24%	8%	5%	11%

Question #2 - Education

	(#2A) HS	(#2B) Some College	(#2C) Some Postgrad
Women	77%	73%	70%
Men	97%	97%	61%
Mgrs	63%	65%	73%

Question #2D1 - Bachelor Degree

	BA	BS	MISSING
Women	22%	39%	39%
Men	8%	92%	
Mgrs	Yes - 74%		26%

Question #2D2 - Bachelor's Major Discipline

	410	414	510	701	704	809	825	901	902	906	909	910	924	925	926	998
Women	1%	1%	1%	15%	4%		1%	3%		1%	13%	6%	1%			
Men	3%	3%	3%	11%	8%	4%		5%			8%	3%			3%	3%
Mgrs				1%				11%	2%		25%	3%		3%		1%

	1102	1299	1509	1701	1702	1802	1901	1902	1905	1919	2001	2206	4902	4904	MISSING
Women	1%		1%	16%	1%			8%	4%	1%	1%	1%	1%	1%	14%
Men		3%		18%		3%		3%	5%				3%	3%	13%
Mgrs				6%			1%	10%	1%						31%

Question #2E1 - Master's Degree

	MA	MS	MISSING
Women	8%	20%	72%
Men	3%	39%	58%
Mgrs	Yes - 53%		47%

Question #2F1 - Doctorate

		MISSING
Women	5%	95%
Men	3%	97%
Mgrs	15%	85%

Question #3 - Demo Project Level

	1	2	3	4
Women	4%	43%	49%	3%
Men	3%	45%	53%	0%

Question #3a - How many years have you been in your current grade level:

	1	2	3	4	5	6-10	11-15	16-27	28+
Women	33%	24%	11%	4%	5%	10%	5%	5%	
Men	24%	16%	21%	8%	3%	11%	8%	5%	
Mgrs	12%	5%	11%	6%	14%	25%	14%	12%	1%

Women 5 yrs or less: 77%   Women 6 yrs or more: 20%
Men 5 yrs or less: 72%   Men 6 yrs or more: 24%

Question #4 - Job Classification Series number:

	70	180	801	810	830	855	858	894	896	901	1301
Women	1%	1%		1%	8%	18%	1%		1%		
Men				3%	5%	24%		3%	3%	3%	
Mgrs		1%	4%		6%	58%					1%

	1310	1320	1360	1370	1515	1520	1550	1702	2001	5208	8574	MISSING
Women	8%	3%	1%	1%		16%	11%	1%		1%	1%	24%
Men		5%	5%			16%	18%					16%
Mgrs	6%	3%			3%	3%			1%			12%

Question #5 - Year you entered the NOSC workforce:

	1986	1985	1984	1983	'78-'82	'73-'77	'60-'72	'30-'59
Women	6%	27%	9%	14%	22%	13%	8%	3%
Men	8%	18%	11%	13%	24%	5%	18%	0%(3% in 1987)
Mgrs				2%	12%	76%	9%(1% in 1983)	

Question #6 - How long do you intend to work at NOSC?

	0-5	6-10	11-15	16-19	20+
Women	16%	24%	13%	1%	41%
Men	18%	18%	5%	5%	50%
Mgrs	14%	24%	12%	10%	40%

Question #7 - How many breaks in service have you had?

	None	1	2	8
Women	80%	14%	4%	
Men	97%	3%		
Mgrs	91%	8%		1%

Question #8 - Lengths of Breaks

	1mo-6mos	7mos-1 yr	2-4 years	5-7 years	8-10 years	11-14 years	15+ years
Women	.12	4%	3%	1%			
Men	.03						
Mgrs	3%	3%	1%				

Question #9 - Do you aspire to be a NOSC Branch Head?

	No	Yes	Missing
Women	56%	43%	1%
Men	58%	42%	

Question #9a - If yes, do you think you will achieve this goal?

	No	Yes	Missing
Women	18%	25%	57%
Men	5%	26%	68%

Question #10 - Do you aspire to be a NOSC Division Head?

	No	Yes	Missing
Women	75%	23%	3%
Men	68%	32%	

Question #10a - If yes, do you think you will achieve this goal?

	No	Yes	Missing
Women	14%	11%	75%
Men	8%	13%	79%

Question #11 - Do you aspire to be a NOSC Department Head?

	No	Yes	Missing
Women	81%	18%	1%
Men	79%	18%	3%

Question #11a - Will achieve goal of becoming a Department Head

	No	Yes	Missing
Women	16%	4%	80%
Men	18%	3%	79%

Question #12 - Are you a Program Manager?

	No	Yes	Missing
Women	68%	30%	1%
Men	66%	34%	

Question #12a - If yes, of a Minor or Major Program?

	Minor	Major	Missing
Women	14%	18%	68%
Men	13%	21%	66%

(Question #10 of the Managers' survey: Have you been a Program Manager?)

No	Yes				Minor	Major	Both
12%	88%				12%	56%	22%

Question #13 - If you are not a program manager, do you aspire to be one?

	No	Yes
Women	19%	52%
Men	24%	39%

Question #14 - Have you submitted a request to attend technical or
management training at NOSC?

	No	Yes
Women	43%	56%
Men	58%	42%

(Question #11 on Managers' Survey: Have you attended technical or
management training at NOSC?)

No	Yes
19%	81%

Question #15 - Have you attended the NOSC Program Managers' Training Course?

	No	Yes
Women	86%	11%
Men	95%	5%

(Question #12 on Managers' Survey: Have you attended the NOSC Program Managers'
Training Course?)

No	Yes
67%	33%

Question #16 - While at NOSC, have you taken any education or self-development
courses on your own?

	No	Yes
Women	27%	72%
Men	29%	71%
Mgrs	16%	84%

Question #17 - While employed at NOSC, have you attended any management/
supervisory training courses outside NOSC?

No   Yes

Women	77%	22%
Men	92%	8%
Mgrs	17%	83%

Question #17a - Was the training financially supported by NOSC?

	No	Yes
Women	9%	16%
Men	5%	8%
Mgrs	8%	72%

Question #18 - Have you been a supervisor at NOSC and are no longer a supervisor?

	No	Yes
Women	91%	6%
Men	97%	3%

Question #19 - If yes, please indicate the reason:

Question #19a - The position was eliminated.

	No	Yes	Missing
Women		1%	99%
Men			100%

Question #19b - I didn't like being a supervisor.

	No	Yes	Missing
Women			100%
Men			100%

Question #19c - I decided to take another position.

	No	Yes	Missing
Women		1%	99%
Men		3%	97%

Question #19d - Narrative explanation provided.

	No	Yes	Missing
Women		3%	97%
Men		3%	97%

Question #20 - Have you ever been a supervisor in a technical work setting
at another place of employment?

	No	Yes	Missing
Women	85%	13%	3%
Men	74%	21%	5%
Mgrs	75%	25%	

Question #21 - Have you been a Program Manager in the past and are no longer
              a Program Manager?

	No	Yes	Missing
Women	87%	11%	1%
Men	95%	3%	3%

Question #22 - If yes, please indicate the reason why:

Question #22a - The position was eliminated.

	No	Yes	Missing
Women		6%	94%
Men		3%	97%

Question #22b - I didn't like being a program manager.

	No	Yes	Missing
Women	3%		97%
Men			100%

Question #22c - I decided to take another position.

	No	Yes	Missing
Women	3%	3%	95%
Men			100%

Question #22d - Narrative explanation provided.

	No	Yes	Missing
Women		8%	92%
Men			100%

Question #23 - Have you wanted to be a Supervisor/Program Manager in the
              past but have since changed your mind?

	No	Yes	Missing
Women	91%	6%	3%
Men	84%	11%	5%

Question #23a - If yes, please state the reason:

    Narrative explanation provided.

	No	Yes	Missing
Women		8%	92%
Men		8%	92%

What do you think you must do in order to be selected as a Supervisor/
Program Manager? For each of the following items, please rank the
importance, from 1 = Not Important to 5 = Very Important, by drawing
a circle around the appropriate number:

(Managers' survey reads: What must an employee do in order for you to consider
him/her to be selected as a Supervisor/Program Manager? For each of the following
items, please rank the importance, from 1 = Not Important to 5 = Very
Important, by drawing a circle around the appropriate number:)

	Not Important		Neutral		Important
	1	2	3	4	5

Question #24 - Achieve technical excellence

Women	18%	19%	62%
Men	24%	29%	47%
Mgrs	3%	9%	88%

Question #25 - Be willing to travel

Women	5%	30%	64%
Men	11%	34%	55%
Mgrs	1%	15%	84%

Question #26 - Develop visibility within NOSC

Women	3%	10%	87%
Men	3%	18%	79%
Mgrs	3%	23%	74%

Question #27 - Develop visibility with sponsors

Women	8%	6%	86%
Men	3%	19%	78%
Mgrs	4%	10%	86%

Question #28 - Have ability to bring program funding to the Center

Women	6%	17%	77%
Men	3%	16%	81%
Mgrs	1%	16%	83%

Question #29 - Be selected for off-Center special assignments (e.g., six
months in Wa DC, NSAP tour)

Women	43%	39%	18%
Men	34%	34%	32%
Mgrs	51%	34%	15%

Question #30 - Have a mentor

Women	13%	23%	64%
Men	29%	34%	37%
Mgrs	32%	36%	33%

Question #31 - Have a career development plan

Women	19%	28%	53%
Men	27%	35%	38%
Mgrs	29%	36%	35%

Question #32 - Have support of spouse/family

Women	26%	25%	49%
Men	35%	30%	35%
Mgrs	21%	26%	53%

Question #33 - Have supervisor's support

Women	0%	3%	97%
Men	5%	3%	92%
Mgrs	0%	12%	88%

Question #34 - Have Department Head's support

Women	0%	6%	94%
Men	5%	11%	84%
Mgrs	2%	20%	78%

Question #35 - Move to different work group(s) in order to broaden experience

Women	26%	40%	34%
Men	32%	38%	30%
Mgrs	36%	46%	18%

Question #36 - Work on important projects

Women	4%	25%	71%
Men	18%	13%	68%
Mgrs	7%	24%	70%

Question #37 - Have an advanced degree (Master's or above)

Women	25%	32%	43%
Men	32%	29%	39%
Mgrs	36%	36%	28%

Question #38 - Supervisory/Management training

Women	34%	29%	38%
Men	24%	37%	39%
Mgrs	18%	36%	46%

Question #39 - Have natural management ability

Women	25%	14%	61%
Men	21%	34%	45%
Mgrs	10%	11%	79%

What do you think may be the factors keeping you from becoming a Supervisor
or Program Manager? For each of the following possible reasons, please
rank each item from 1 = Strongly Disagree to 5 = Strongly Agree, by drawing
a circle around the appropriate number:

(Managers' survey reads: What do you think are the factors keeping employees from
becoming a Supervisor or Program Manager. For each of the following possible reasons, please
rank each item from 1 - Strongly Disagree to 5 = Strongly agree, by drawing
a circle around the appropriate number:) () denotes Managers' Survey phrasing.

Strongly Disagree		Undecided		Strongly Agree
1	2	3	4	5

Question #43 - I (They) have other conflicting goals

Women	43%	18%	39%
Men	33%	28%	39%
Mgrs	10%	24%	66%

Question #44 - I don't (They feel they don't) have to be a supervisor to
achieve financial rewards

Women	33%	36%	32%
Men	34%	31%	34%
Mgrs	25%	29%	46%

Question #45 - Commuting problems

Women	91%	3%	7%
Men	78%	14%	8%
Mgrs	74%	21%	5%

Question #46 - Family commitments

Women	64%	15%	22%
Men	72%	11%	17%
Mgrs	45%	36%	20%

Question #47 - Postponing career goals for child-rearing

Women	66%	11%	23%
Men	80%	17%	3%
Mgrs	30%	40%	29%

Question #48 - Attitude of co-workers or supervisor do not support my (their) goals

Women	51%	26%	23%
Men	69%	19%	11%
Mgrs	32%	29%	39%

Question #49 - Requires too much traveling

Women	58%	24%	18%
Men	47%	25%	28%
Mgrs	26%	20%	54%

Question #50 - Requires working too many or late hours

Women	52%	23%	25%
Men	58%	19%	22%
Mgrs	27%	18%	54%

Question #51 - I (They) do not want to supervise

Women	57%	15%	28%
Men	42%	31%	28%
Mgrs	3%	9%	88%

Question #52 - Lack of support from family

Women	92%	5%	3%
Men	83%	14%	3%
Mgrs	28%	37%	18%

Question #53 - Lack of support from supervisor

Women	54%	24%	44%
Men	60%	31%	9%
Mgrs	28%	20%	52%

Question #54 - I (They) have not been given the opportunity to work on important assignments.

Women	55%	24%	21%
Men	61%	19%	19%
Mgrs	48%	22%	40%

Question #55 - I (They) don't get enough visibility

Women	39%	29%	32%

```
Men          44%        25%          31%
Mgrs         38%        20%          52%
```

Question #56 - I (They) feel that NOSC does not promote from within

```
Women        58%        34%           8%
Men          69%         8%          22%
Mgrs         73%        21%           7%
```

Question #57 - I am (They are) too new in the workforce

```
Women        34%         5%          61%
Men          44%        17%          39%
Mgrs         25%        23%          53%
```

Question #58 - I (They) have not considered becoming a supervisor or program manager

```
Women        68%        12%          20%
Men          57%        14%          29%
Mgrs         25%        27%          48%
```

Question #62 - Is (Was) being a supervisor at NOSC a major career goal for you?

```
             No         Yes
Women        57%        41%
Men          68%        26%
Mgrs         47%        48%
```

Question #63 - Do (Did) you talk about your career goals with your supervisor?

```
             No         Yes
Women        22%        77%
Men          45%        55%
Mgrs         28%        70%
```

Question #64 - Do you have (use) a current Individual Development Plan, NOSC-SD 14000-1

```
             No         Yes
Women        76%        19%
Men          87%         8%
Mgrs         88%        12%
```

Question #65 - Does (Did) your supervisor help you attain your career goals?

```
             No         Yes
Women        32%        59%
Men          37%        58%
Mgrs         27%        72%
```

Question #66 - Do (Did) you have a mentor?

	No	Yes
Women	65%	32%
Men	66%	32%
Mgrs	55%	45%

Question #66a - If yes, is (was) your mentor male or female?

	Female	Male
Women	4%	28%
Men	3%	29%
Mgrs	0%	44%

Question #67 - Do you feel that underrepresentation of women in technical
supervisory positions at NOSC is a problem?

	No	Yes
Women	27%	65%
Men	74%	16%
Mgrs	60%	28%

Question #67a. - If yes, what do you feel are the primary causes?

The tally below totals, in order of frequency, repeated comments
that were volunteered by the 39 non-supervisory technical women
respondents who answered Question 67a.

"Old Boys' Network"/male bias: 21
Lack of experience/adequate training not provided: 10
Don't know what it takes/lack of female role models to emulate: 8
Too new in the workforce: 4
Too few technical women in the workforce: 4
No desire to supervise: 3
Lack of child care facilities: 3
Family commitments: 2
It is a social problem/not a NOSC problem: 2

There were several comments expressed only once by respondents,
which are not annotated here.

ANALYSIS OF NOSC PERSONNEL DATABASE
COMPARISON PAGE

MEN NON SUPERVISORS = 1232				WOMEN NON SUPERVISORS = 118			
YEARS	00-05	333	.27	YEARS	00-05	54	.46
	06-10	198	.16		06-10	32	.27
	11-15	67	.05		11-15	10	.08
	16-20	137	.11		16-20	11	.09
	> 20	497	.40		> 20	11	.09
SERIES	OTHER	303	.25	SERIES	OTHER	72	.61
	830	125	.10		830	12	.10
	855	613	.50		855	23	.19
	1310	191	.16		1310	11	.09
DEGREE	BS+	659	.53	DEGREE	BS+	67	.57
	MS+	411	.33		MS+	45	.38
	Ph.D+	147	.12		Ph.D+	5	.04
	< BS	15	.01		< BS	1	.01

MEN SUPERVISORS = 158				WOMEN SUPERVISORS = 2			
YEARS	00-05	4	.03	YEARS	00-05	1	.50
	06-10	10	.06		06-10	0	.00
	11-15	9	.06		11-15	0	.00
	16-20	28	.18		16-20	1	.50
	> 20	107	.68		> 20	0	.00
SERIES	OTHER	38	.24	SERIES	OTHER	1	.50
	830	14	.09		830	0	.00
	855	85	.54		855	1	.50
	1310	21	.13		1310	0	.00
DEGREE	BS+	59	.37	DEGREE	BS+	2	100
	MS+	66	.42		MS+	0	.00
	Ph.D+	30	.19		Ph.D+	0	.00
	< BS	3	.02		< BS	0	.00

This comparison page is a breakdown of supervisory and non-supervisory male and female S&E's based on the three criteria (years at NOSC, series and degree level) that seem to be important elements for movement into management positions at NOSC.

These numbers are the basis for other calculations used in this report.

Appendix F

CURRENT MALE SUPERVISORS ONBOARD: BY YEARS AT NOSC, DEGREE LEVEL AND DEGREE AREA

0-5 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	0	0	0	0	1	0	1
830	0	0	0	0	0	0	0	0
855	0	1	0	1	0	0	0	2
1310	0	0	0	1	0	0	0	1
TOTAL	0	1	0	2	0	1	0	4

6-10 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	1	0	0	2	1	1	0	5
830	0	0	1	0	0	0	0	1
855	0	1	0	3	0	0	0	4
1310	0	0	0	0	0	0	0	0
TOTAL	1	1	1	5	1	1	0	10

11-15 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	1	0	1	0	1	0	3
830	0	0	0	0	1	0	0	1
855	0	0	2	0	2	0	0	4
1310	0	0	0	0	1	0	0	1
TOTAL	0	1	2	1	4	1	0	9

16-20 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	1	1	2	0	0	1	5
830	0	0	1	1	1	1	0	4
855	0	8	0	3	1	5	0	17
1310	0	0	0	1	0	1	0	2
TOTAL	0	9	2	7	2	7	1	28

+20 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	3	5	9	2	4	1	24
830	0	4	1	2	0	1	0	8
855	2	18	7	24	2	5	0	58
1310	0	5	1	6	0	5	0	17
TOTAL	2	30	14	41	4	15	1	107

BS: 59   MS: 66   PhD: 30

GRAND TOTAL: 158

OTHER	38
830	14
855	85
1310	21
GRAND TOTAL:	158

These specific Series were highlighted because each has consistently had the highest population at NOSC.

830: Mech Engr
855: Elect Engr
1310: Physicist

LBS: Less than Bachelors Degree

F-2

CURRENT FEMALE NON-SUPERVISORS ONBOARD: BY YEARS AT NOSC, DEGREE LEVEL AND DEGREE AREA

0-5 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	16	2	11	1	3	0	33
830	0	7	0	2	0	0	0	9
855	0	5	0	4	0	0	0	9
1310	0	2	0	0	0	0	1	3
TOTAL	0	30	2	17	1	3	1	54

6-10 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	16	0	5	0	0	0	21
830	0	1	0	2	0	0	0	3
855	0	3	0	1	0	0	0	4
1310	0	2	0	2	0	0	0	4
TOTAL	0	22	0	10	0	0	0	32

11-15 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	0	0	3	0	0	0	3
830	0	0	0	0	0	0	0	0
855	0	1	0	5	0	0	0	6
1310	0	0	0	0	0	1	0	1
TOTAL	0	1	0	8	0	1	0	10

16-20 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	1	2	1	4	0	0	0	8
830	0	0	0	0	0	0	0	0
855	0	0	0	2	0	0	0	2
1310	0	1	0	0	0	0	0	1
TOTAL	1	3	1	6	0	0	0	11

+20 YRS

	LBS	BS	+	MS	+	PHD	+	TOTAL
OTHER	0	5	0	2	0	0	0	7
830	0	0	0	0	0	0	0	0
855	0	1	0	1	0	0	0	2
1310	0	2	0	0	0	0	0	2
TOTAL	0	8	0	3	0	0	0	11

BS: 67   MS: 45   PhD: 5

GRAND TOTAL: 118

OTHER	72
830	12
855	23
1310	11
GRAND TOTAL:	118

These specific Series were highlighted because each has consistently had the highest population at NOSC.

830: Mech Engr
855: Elect Engr
1310: Physicist

LBS: Less than Bachelors Degree

CURRENT MALE NON-SUPERVISORS ONBOARD: BY YEARS AT NOSC, DEGREE LEVEL AND DEGREE AREA

	LBS	BS	+	MS	+	PHD	+	TOTAL	
0-5 YRS	0	46	10	29	5	15	0	105	OTHER
	1	27	2	14	0	2	0	46	830
	0	92	12	32	3	4	0	143	855
	0	20	3	8	0	8	0	39	1310
TOTAL	1	185	27	83	8	29	0	333	

	LBS	BS	+	MS	+	PHD	+	TOTAL	
6-10 YRS	0	25	5	22	4	8	0	64	OTHER
	0	20	1	5	0	2	1	29	830
	1	43	6	23	0	2	0	75	855
	0	7	0	9	3	10	1	30	1310
TOTAL	1	95	12	59	7	22	2	198	

	LBS	BS	+	MS	+	PHD	+	TOTAL	
11-15 YRS	1	2	0	3	0	3	0	9	OTHER
	0	3	0	3	0	2	0	8	830
	1	12	0	19	1	5	1	39	855
	0	1	0	5	0	5	0	11	1310
TOTAL	2	18	0	30	1	15	1	67	

	LBS	BS	+	MS	+	PHD	+	TOTAL	
16-20 YRS	1	7	4	4	2	6	0	24	OTHER
	0	9	0	6	0	1	0	16	830
	0	45	1	31	1	8	0	86	855
	0	1	0	3	1	5	1	11	1310
TOTAL	1	62	5	44	4	20	1	137	

	LBS	BS	+	MS	+	PHD	+	TOTAL	
+20 YRS	3	42	9	28	4	12	3	101	OTHER
	0	13	0	12	0	1	0	26	830
	5	131	20	93	6	14	1	270	855
	2	37	3	27	5	24	2	100	1310
TOTAL	10	223	32	160	15	51	6	497	

BS: 255   MS: 175   PhD: 57

GRAND TOTAL: 1232

OTHER	303
830	125
855	613
1310	191
GRAND TOTAL:	1232

These specific series were highlighted
because each has consistently had
the highest population at NOSC.

830: Mech Engr
855: Elect Engr
1310: Physicist

LBS: Less than Bachelors Degree

F-4